as you sat down to it this morning. Call up the appearance of the table, the dishes and food on it, the persons present, etc.; then write answers to the following questions—

1. Are the outlines of the objects distinct and sharp? Yes, 86.5 per cent.; no, 6.2 per cent.; miscellaneous, 7.3 per cent.

2. Are the colors bright and natural? Yes, 83.3 per cent.; no, 10.4 per cent.; miscellaneous, 6.3 per cent.

3. Where does the image seem to be situated? In the head? before the eyes? at a distance? In the head, 28.7 per cent.; before the eyes, 36.2 per cent.; miscellaneous, 2.1 per cent.

4. How does the size of the image compare with the actual size of the scene? Same, 53.7 per cent.; smaller, 45.3 per cent.; miscellaneous, 1 per cent.

1. Can you call to mind better the face or the voice of a friend? Face, 75 per cent.; voice, 14.6 per cent.; miscellaneous, 1 per cent.

2. When "violin" is suggested, do you first think of the appearance of the instrument or the sounds made when it is played? Appearance, 76.8 per cent.; sounds, 23.2 per cent.

3. (a) Can you call to mind natural scenery, so that it gives you pleasure? (b) music? (c) the taste of fruit? Scenery: Yes, 94.6 per cent.; no, 4.3 per cent.; miscellaneous, 1.1 per cent. Music: yes, 89.1 per cent.; no, 9.8 per cent.; miscellaneous, 1.1 per cent. Taste of fruit: yes, 68.1 per cent.; no, 28.6 per cent.; miscellaneous, 3.3 per cent.

4. Have you ever mistaken a hallucination for a perception, e. g., apparently heard a voice or seen a figure when none was present? If you answer yes, describe the experience on the back of this sheet. Yes, 74.7 per cent.; no, 25.3 per cent.

The students have promised to submit to a re-testing once a year.

CHRISTISON.

NEURO-PATHOLOGY.

THE CONDITION OF THE TENDON REFLEXES IN TRANSVERSE MYELITIS. Wiener klinische Wochenschrift, Oct. 1, 1896. By Ernst Bischoff.

It has been known for some years that the patellar reflex may be absent when the spinal cord is completely destroyed in the cervical and upper thoracic regions (Bastian), and no satisfactory explanation has ever been given. Dr. Bischoff has examined the reported cases in which this condition had been present, and he concludes from the study of these that the reflexes may be lost when the interruption of cord fibres is incomplete, and may be preserved when the destruction of the fibres in *loco morbi* is total. The condition of lessened reflexes, according to him, is due to some process which has no direct connection with the spinal lesion, and is not dependent on its completeness or height, nor on the degree of the secondary degeneration.

His explanation is as follows: After the rapid formation of a partial or complete transverse lesion in the cervical or thoracic cord (with the exception of its lowest portion) the vasomotor nerves which supply the abdominal viscera and the lower portions of the body, together with the motor and sensory fibres, are paralyzed. This causes dilatation of the blood vessels in these parts and a decrease in the general blood pressure. The lumbar region of the cord suffers from the anæmia thus produced; its vitality is lessened, and the tendon reflexes are lost.

Acute decubitus, vomiting, diarrhœa, albumenuria, nephritis and occasional œdema of the legs, seen in such a condition, are the results of these vascular changes.

The vasomotor disturbance is only temporary, and if no organic changes have occurred, the reflexes may be restored.

The higher the spinal lesion is situated, the greater must be the vascular disturbance, as more fibres are destroyed.

In most cases the tendon reflexes have not returned after they have been once lost. In some of these there has been a general septic infection, with visible organic changes in the muscles and nerves of the lower extremities or in the lumbar cord; in other cases, rapid death has prevented the formation of these visible alterations. Where the loss of the tendon reflexes after the formation of a transverse lesion has been gradual, the cause is to be sought in secondary morbid processes; as extension of a tubercular meningitis; neuritis due to alcohol, toxæmia or cachexia; or general septicæmia, which cause degeneration of nerves and muscles.

Dr. Bischoff acknowledges that his explanation is entirely hypothetical. SPILLER.

FLACCID PARAPLEGIA WITH ANÆSTHESIA, COEXISTING WITH EXAGGERATED KNEE-JERK, FOOT CLONUS AND SPASM OF THE BLADDER AND RECTUM.

The rarity of the above syndrome induced Dr. Journier (Lyon Med., June 28, 1896) to publish his observations and the resulting conclusions: The patient, thirty-four years old, had no positive previous history. His present trouble began three months ago with pains in the lumbar regions, then radiating pains around the abdomen, then progressive paraplegia set in, which has developed so rapidly, and to such an extent, within the last two months, that the patient is now powerless. There were concurrent vesico-rectal troubles. The examination revealed further: Pains on pressure over the second and third lumbar vertebræ; flaccid paraplegia with absolute loss of power of both legs; complete anæsthesia in this region with a zone of hyperæsthesia above the glutei; slight œdema of the feet; Laseque's signs of both sciatic nerves; exaggerated knee-jerks, and well marked clonus of the feet; exaggerated cutaneous reflexes, but less marked; desire to micturate frequently, but unable to satisfy it without passing catheter, which reveals spasms of the sphincter; spasms of the sphincter ani, and, in order to help defecation, the patient is obliged to introduce a finger into the anus. The diagnosis of Pott's disease, with compression of the lower lumbar cord and terminal cone, was made by Professor Lepine. The author remarks that the tendon reflexes are considered in general to depend entirely upon the condition of muscular tone, but the present observation goes to prove their independence. Accepting the theory of the tendon reflex centres as being in the spinal cord, the phenomena might be explained as follows: The compression of the spinal cord by the diseased vertebræ did not produce very extensive lesions in its substance, but these lesions might easily be of sufficient intensity to be annihilatory, inhibitory, or destructive at a certain point—for instance, in the upper portions of the conus terminalis, and adjacent cord—and only sufficient to be stimulating higher up, or perhaps lower down. The centre for the patella tendon reflex is usually localized by Starr in the extremity of the conus terminalis. These are all distinct centres, although they are connected with the spinal centres for movements of the lower extremity, the bladder and rectum. If, notwithstanding the complete anæsthesia and paralysis, percussion of the patella tendons causes the foot to be thrown forward forcibly, it is because the crural nerve contains special sensory fibres These fibres transmit impulses through a fascicle of collateral fibres, described by Ramon y Cajal, to be a special group of cells in the anterior horns, which are therefore motor reflex cells. The same interpretation might be applied to other reflex movements, as for instance, the foot clonus. The flaccidity and the exaggerated reflex motility of the muscles could not be accounted for by the hypothesis of a transverse myelitis with compression of the pyramidal tracts. If muscular tone, ordinary and reflex movements, were controlled by the same anterior spinal neuron, one would expect